

APPLICANT(S): DADI, Michel
SERIAL NO.: 10/565,114
FILED: January 17, 2006

Page 2

AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1-82. (Canceled)

83. (Currently Amended) An amenable abutment device for interfacing a dental prosthesis to a dental implant or to a dental implant analog, the device comprising:

a prefabricated intra-implant element that fits the dental implant or the dental implant analog, said intra-implant element having a bore to screw the intra-implant element to the implant;

a prefabricated intra-crown element to be connected to the dental prosthesis; and
an intermediary connection element for connecting between the intra-crown element and the intra-implant element comprising a deformable element, said deformable element being independently adjustable at least in height orientation and lateral position, that is used to determine a proper relative position of the intra-implant element with respect to the intra-crown element so as to facilitate forming a model abutment or a permanent abutment.

84. (Previously Presented) The amenable abutment device of claim 83, wherein the intra-crown element and the intra-implant element are pre-joined by a resilient connection.

85. (Previously Presented) The amenable abutment device of claim 83, wherein the intermediary connection element comprises bonding material.

86. (Previously Presented) The amenable abutment device of claim 85, wherein the resilient bonding material comprises material selected from a group of materials including: wax, acrylic, light-curable composite.

APPLICANT(S): DADI, Michel
SERIAL NO.: 10/565,114
FILED: January 17, 2006

Page 3

87. (Withdrawn) The amenable abutment device of claim 82, wherein the intermediary connection element comprises mechanical reinforcement.
88. (Withdrawn) The amenable abutment device of claim 82, wherein the model for forming a permanent abutment includes a bore through the model for accommodating a screw therethrough.
89. (Withdrawn) An intra crown element analog device, used in a process of making a dental prosthesis without prior knowledge on the exact location and exact orientation of at least one dental implant, the device provided for simulating a predetermined external contour of an intra-crown element of an amenable abutment and its predetermined relative position when connected reproducibly and univocally to a corresponding adapter embedded in a model of the patient's mouth , the device comprising an external contour for fitting a specific coping.
90. (Withdrawn) The device of claim 89, wherein the device and the adapter form an integral part.
91. (Withdrawn) The device of claim 89, wherein the device and the adapter are separable.
92. (Withdrawn) An adapter device for use in a dental laboratory, for making a dental prosthesis that fits on at least one amenable abutment connected to a dental implant without prior knowledge on the exact location and exact orientation of the dental implant, the device comprising:
 - an adapter with a connection end of predetermined shape designed to be connected reproducibly and univocally to an intra-crown element analog ,and
 - a base end designed to be embedded into a model of a patient's jaw.
93. (Withdrawn) The adapter device of claim 92, wherein the connection end of the adapter is in the form of a female connector for accommodating therein a male connector fitted to an intra-crown element analog.

94. (Withdrawn) The adapter device of claim 92, wherein the connection end of the adapter is in the form of a male connector for accommodating therein a female connector fitted to an intra-crown element analog.

95. (Withdrawn) The adapter device of claim 92, wherein the connection end of the adapter is in the form of a connection end of an implant.

96. (**Currently Amended**) A kit for preparing a dental abutment, the kit comprising:
at least one of a plurality of prefabricated intra implant elements designed to fit different dental implants having a bore to screw the intra-implant element to the implant; [and]
at least one of a plurality of prefabricated intra-crown elements, designed to be connected to different dental prostheses; and
at least one of a plurality of intermediary connection elements for connecting between the intra-crown element and the intra-implant element comprising a deformable element, said deformable element being independently adjustable at least in height and lateral position, that is used to determine a relative position of the intra implant element with respect to the intra crown element so as to facilitate forming a model abutment or a permanent abutment.

97. (Previously presented) The kit of claim 96, further comprising at least one of a plurality of intermediary connection elements.

98. (Previously presented) The kit of claim 97, wherein said at least one of a plurality of intermediary connection elements comprises at least one of a plurality of resilient connection elements.

99. (Withdrawn) The kit of claim 97, wherein said at least one of a plurality of intermediary connection elements comprises a globule of resilient bonding material contained within a pliable membrane that permits the resilient bonding material to be matched to an internal

APPLICANT(S): DADI, Michel
SERIAL NO.: 10/565,114
FILED: January 17, 2006

Page 5

contour of the intra-crown element and to an external contour of the intra-implant element.

100. (Previously presented) The kit of claim 97, wherein the deformable element of the connection comprises an initially soft material that is eventually hardened.

101. (Previously presented) The kit of claim 97, wherein said at least one of a plurality of intermediary connection elements comprises resilient bonding material.

102. (Previously presented) The kit of claim 101, wherein the resilient bonding material comprises material selected from a group of materials including: wax, acryl, light-curable composite.

103. (Previously presented) The kit of claim 96, further comprising at least one of a plurality of intra-crown analogs each adapted for precise fitting to an adapter.

104. (Withdrawn) The kit of claim 96, further comprising at least one of a plurality of adapters each comprising a base end designed to be tentatively embedded in a model of a patient's jaw and a connection end designed to be connected to an intra-crown element.

105. (Previously presented) The kit of claim 96, further comprising at least one of a plurality of temporary crowns each adapted for fitting to a respective intra-crown element analog.

106. (Previously presented) The kit of claim 96, further comprising at least one of a plurality of porcelain crowns each adapted for fitting to a respective intra-crown element analog and serving as a base for an ideal prosthesis by post modification.

107. (Withdrawn) A dental laboratory kit for making a dental prosthesis, so as to match a patient's dentition, to be positioned over at least one dental implant in a patient's jaw cooperating with at least one amenable abutment, without prior precise knowledge on the location and orientation of said at least one dental implant, the kit comprising:

at least one of a plurality of adapters; and

at least one of a plurality of intra-crown analogs each adapted for precise fitting to an adapter of said at least one of a plurality of adapters.

108. (Withdrawn) The kit of claim 107, further comprising at least one of a plurality of copings.

109. (Withdrawn) The kit of claim 108, comprising at least one of a plurality of copings that fits at least one of the following elements: an intra-crown element, an intra-crown element analog, a final abutment.

110. (Withdrawn) The kit of claim 108, wherein said at least one of a plurality of copings is made from a material selected from a group of materials including: wax, acryl, gold, non-precious metal, porcelain, zirconia, alumina.

111. (Withdrawn) The kit of claim 107, further comprising at least one of a plurality of temporary crowns.

112. (Withdrawn) The kit of claim 107, further comprising at least one of a plurality of porcelain crowns.

113. (Withdrawn) A method for positioning a dental prosthesis, produced so as to match a patient's dentition, over at least one dental implant in a patient's jaw, said dental prosthesis cooperating with at least one abutment, without prior knowledge on the exact location and exact orientation of said at least one dental implant, the method comprising:

producing in a laboratory the prosthesis that fits on at least one intra-crown-element analog, assuming an approximate spatial disposition between the dental prosthesis and said at least one dental implant so as to fit to at least one amenable abutment connected to said at least one implant and to match the patient's dentition;

positioning the dental prosthesis in the patient's jaw in a desired position and orientation in relation to the patient's dentition thus defining an unknown spatial disposition between the dental prosthesis and said at least one dental implant; and

APPLICANT(S): DADI, Michel
SERIAL NO.: 10/565,114
FILED: January 17, 2006
Page 7

subsequently constructing said at least one amenable abutment having an intra-crown element corresponding to said intra-crown element analog to match the defined spatial disposition between said at least one dental implant and the dental prosthesis.

114. (Withdrawn) A laboratory method for making a dental prosthesis, so as to match a patient's dentition, to be positioned over at least one dental implant in a patient's jaw, said at least one implant cooperating with at least one amenable abutment, without prior knowledge on the exact location and exact orientation of said at least one dental implant, based on acquiring impressions of the patient's jaws, the method comprising:

producing, using the impressions, a model of the patient's jaws;
embedding in the model at least one adapter whose location is dictated by the positioning of at least one intra-crown element analog and corresponds to an approximate location of said at least one dental implant in the patient's jaw, and which has an exposed portion designed to be coupled reproducibly and precisely to said intra-crown element analog; and producing the prosthesis that fits to said at least one intra-crown element analog, assuming an approximate spatial disposition between the dental prosthesis and a predetermined approximate location of said at least one dental implant so as to fit said at least one amenable abutment having a corresponding intra crown element and match the patient's dentition.

115. (Withdrawn) The method of claim 114, further comprising providing coping that fits the external contour of said at least one intra-crown element analog.

116. (Withdrawn) A method for making an abutment in a laboratory comprising producing a definitive abutment, based on a model obtained using an amenable abutment comprising a prefabricated intra implant element that fits the dental implant, a prefabricated intra-crown element to be connected to the dental prosthesis, and an intermediary connection element for connecting between the intra-crown element and the intra implant element comprising a deformable element adjustable in height orientation and lateral position and that is used to determine a proper relative position of the intra implant element with respect to the

intra crown element and for maintaining that relative position.

117. (Withdrawn) A clinical method for positioning a prefabricated dental prosthesis matching a patient's dentition cooperating with at least one amenable abutment, the prosthesis being previously produced assuming an approximate spatial disposition between the dental prosthesis and at least one dental implant in the patient's jaw, the method comprising:

providing at least one amenable abutment for interfacing the dental prosthesis to said at least one dental implant comprising:

a prefabricated intra implant element that fits the dental implant;
a prefabricated intra-crown element to be fitted with the dental prosthesis; and
an intermediary connection element for connecting between the intra-crown element and the intra implant element comprising a deformable element adjustable in height orientation and lateral position that is used to determine a proper relative position of the intra implant element and the intra crown element so as to facilitate forming a model or a permanent abutment.

118. (Withdrawn) A laboratory method for making a dental prosthesis, so as to match a patient's dentition, to be positioned over at least one dental implant in the patient's jaw, the dental prosthesis cooperating with at least one amenable abutment, without prior knowledge on exact the location and exact orientation of said at least one dental implant, based on acquiring impressions of the patient's jaws, the method comprising:

producing, using the impressions, a model of the patient's jaws;

embedding in the model at least one adapter whose location is dictated by the positioning of at least one intra-crown-element analog and corresponds to an approximate location of at least one dental implant in the patient's jaw, at least one adapter having an exposed portion designed to be coupled reproducibly and univocally to said at least one intra-crown element analog;

producing an imitation of the prosthesis or an infrastructure of the prosthesis that fits to said at least one intra-crown element analog, assuming an approximate spatial disposition between the dental prosthesis and a predetermined approximate location of said at least one dental implant so that the prosthesis or the infrastructure

APPLICANT(S): DADI, Michel
SERIAL NO.: 10/565,114
FILED: January 17, 2006

Page 9

of the prosthesis fits said at least one amenable abutment having a corresponding intra crown element and matches the patient's dentition;
generating a 3-D computer construction of the imitation dental prosthesis or infrastructure of the dental prosthesis;
producing, using the 3-D computer construction, the dental prosthesis or the infrastructure.

119. (Withdrawn) A laboratory method for making a dental prosthesis, so as to match a patient's dentition, to be positioned over at least one dental implant in the patient's jaw, the dental prosthesis cooperating with at least one amenable abutment, without prior knowledge on exact the location and exact orientation of said at least one dental implant, based on acquiring impressions of the patient's jaws, the method comprising:

producing, using the impressions, a model of the patient's jaws;
embedding in the model at least one adapter corresponding to an approximate location of at least one dental implant in the patient's jaw, said at least one adapter having an exposed portion designed to be coupled reproducibly and univocally to at least one intra-crown element analog;
generating a 3-D computer construction of the model of the patient's jaws and their relative position including the position of said at least one adapter; designing an external contour of the dental prosthesis; designing and positioning virtually at least one intra-crown element within the contour of the dental prosthesis according to the position of said adapter generating a 3-D computer construction of a virtual dental prosthesis or an infrastructure of the virtual dental prosthesis corresponding to the external contour and fitting to the external contour of the designed intra-crown element; producing, using the 3-D computer construction, one or more of the following: the dental prosthesis, the infrastructure of the dental prosthesis, said at least one intra-crown element and its analog fitting the dental prosthesis.